MADROÑO, Vol. 66, No. 1, pp. 8–9, 2019

NOTEWORTHY COLLECTION

CALIFORNIA

MALOSMA LAURINA (Nutt.) Nutt. ex Abrams (ANACARDIACEAE).—San Bernardino Co., SW foothills of San Bernardino Mts., Rancho Muscupiabe at Badger Hill Preserve CSU San Bernardino, 0.1 km SE of benchmark "Badger 1854" on steep hillside, solitary shrub in coastal sage scrub, San Bernardino North USGS 7.5 minute topographic quadrangle, 34° 11′ 8.39″ N [34.185664°], 117° 18′ 51.45″ W [–117.314292°], ca. 518 m, 27 Apr 2018, *Brett R. Goforth s.n.* (RSA 868368); Riverside Co., SE foothills of San Bernardino Mts., Whitewater Canyon Preserve, E of "Trout Pond" at base of canyon wall drainage, 0.6 km NW of BM 2114, 47 shrubs in desert scrub, NE ¼ sec. 22, T2S, R3E, S.B.B.M, White Water 7.5 min quad., 33° 59′ 19.25″ N [33.988681°], 116° 39′ 17.60″ W [-116.654889°], ca. 680 m, 3 May 2018, *Brett R. Goforth s.n.* (RSA 868367).

Previous knowledge. Malosma laurina has a disjunct distribution range in SW North America along the Pacific Coast and inland to the Sonoran Desert edge, collected from the Sierra de la Laguna at Lat. 23° 30′ N in the Cape region of the Baja California Peninsula (SD 49030), poleward to Lat. 35° N in San Luis Obispo Co., CA (UC 1130505, OBI 48379), including the islands of Cedros, Guadalupe, Todos Santos, San Clemente, and Catalina (Wiggins 1980; Wallace 1985; Keil 1990; Lenz 1992; Junak and Philbrick 1994; Turner et al. 1995). The broad-leaves and stems of this evergreen woody shrub are intolerant of freezing temperatures, which cause freeze-thaw embolism injury and death of shoots sprouted from a root crown (Pratt et al. 2005). In southern California, *M. laurina* is common on dry slopes and canyons in shrublands below ca. 1000 m near the coast, though scarce at interior range limits because of susceptibility to frost (Munz 1974; Smith 1976; Beauchamp 1986; Raven et al. 1986; Roberts et al. 2004; Clarke et al. 2007; Roberts 2008). There are apparently no previous collections from the San Bernardino Mts. based on a search of the Consortium of California Herbaria database (CCH 2018). An unvouchered report of *M. laurina* at Whitewater Canyon was previously noted (Krantz 1994), but this species is not included in the checklist of 524 vascular plant taxa collected from the locality (Chester 2010).

Significance. These are the first collections of *M. laurina* to be reported from the San Bernardino Mts. The two collection localities are 65 km apart, resulting in range extensions of 18 km NE in San Bernardino Co., and 58 km E in Riverside Co. The nearest collections recorded by CCH are located at Fontana (SD 146056, UCR 113238; 18 km SW from Badger Hill, 73 km W from Whitewater Canyon), the Jurupa Hills (UCR 103864, RSA 604049, RSA 543128; 20–22 km SW from Badger Hill, 72–73 km W from Whitewater Canyon), Etiwanda Wash south of the San Gabriel Mts. (UCR 97387; 21 km W from Badger Hill, 83 km NW from Whitewater Canyon), and Pigeon Pass in the Box Springs Mts. (CLARK-A1528-5483, UC 1042990; 21 km S from Badger Hill, 58 km W from Whitewater Canyon). An anomalous occurrence mapped by CCH at ca. 1480 m elevation near Keen Camp Summit in the San Jacinto Mts. (IRVC79; 79 km SE from Badger Hill, 34 km SW from Whitewater Canyon) could not be confirmed by field survey on 29 June 2018; the specimen is from a high school student collection lacking calendar date and field notes.

At Badger Hill Preserve, the single individual of *M. laurina* is an arborescent shrub growing on a SE aspect backslope of 40° angle. The canopy was measured at 4 m height and 6 m diameter, with the largest stem 7 cm DBH. Flowers collected on 11 July 2018 were pistillate with vestigial stamens (Miller and Wilken 2012). A sample of 35 inflorescences collected on 12 Sept 2018 contained no fruit. Soils are shallow with a gravelly loam texture derived from weathered schist, and classify as loamy, mixed, superactive, thermic Lithic Haploxerolls mapped in the Friant Series (Woodruff 1980). A mean annual precipitation of ca. 40 cm is registered by a rain gauge located 1.2 km W at 470 m elevation (San Bernardino County 2018). Frost occurrence is likely inhibited by equator-facing aspect and cold-air drainage off the hillside. Associated species include *Adenostoma fasciculatum* Hook. & Arn., *Bromus diandrus* Roth, *B. madritensis* L. subsp. *rubens* (L.) Husn., *Centaurea melitensis* L., *Cryptantha clevelandii* Greene, *Dichelostemma capitatum* (Benth.) Alph. Wood, *Eriogonum fasciculatum* Benth., *Hirschfeldia incana* (L.) Lagr.-Fossat, *Salvia apiana* Jeps., and *S. columbariae* Benth.

At Whitewater Preserve, a small population of shrubs was clustered at the base of an east canyon wall drainage, on a W aspect footslope of 15°, uphill from "Trout Pond" where groundwater seepage occurs along a fault line mapped in the San Andreas-Banning zone (Yule and Sieh 2003). Shrub canopies had up to 3 m height, sprouted from separate root crowns. A census of the population on 31 Aug 2018, counted 47 individuals, of which 42 had bisexual flowers with 25 in fruit, and 2 were staminate (Miller and Wilken 2012). Three could not be examined because of inaccessible location. Charred dead branches were found at the root crowns of 5 individuals, indicating their canopies were sprouted after the site had burned. This site is located inside the mapped perimeters of wildfires that

California Botanical Society
www.calbotsoc.org

Congratulations to the following winners of the 27th Graduate Student Symposium

April 2019 Cal Poly, San Luis Obispo

Natalie Love, University of California, Santa Barbara: A new quantitative phenological metric for use in pheno-climatic models: a case study using herbarium specimens of *Streptanthus tortuous* (Best Overall Presentation)

San Luis Obispo Serpentine field trip with Nishi Rajakaruna (5 April 2019)
Photo Credit: Lacey Benson

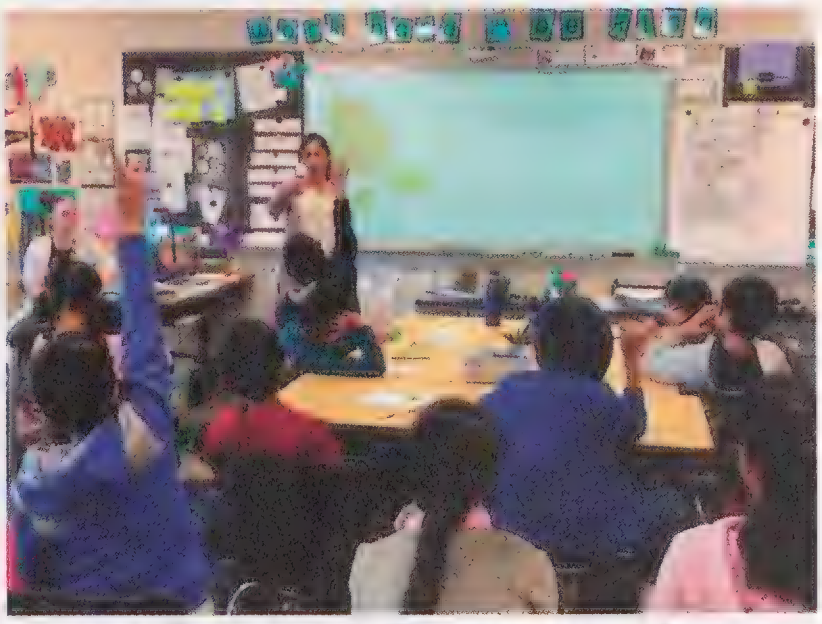
Emily Cox, University of California, Berkeley: *Lasthenia gracilis* and water stress: A glimpse into the future of California grasslands (Best Talk)

Erin Coltharp & Chloe Knowd, California Polytechnic State University, San Luis Obispo: Oak (*Quercus agrifolia*) leaf domatia-mite mutualism (Joint Winner Best Poster)

Nancy Conejo, San Francisco State University: Biogeography of the whorled wattles (*Acacia* section *Lycopodiifoliae*) in the Australian Monsoon Tropics (Joint Winner Best Poster)

Botany Ambassador in the Classroom

For the second year in a row, Sraavya Sambara, a high school student and member of the Rothfels lab at UC Berkeley, has been teaching special botany classes to 4th and 5th graders at Bella Vista Elementary School in San Ramon, CA.



Donate to our Botany Education and Outreach Programs at
calbotsoc.org/membership/#donate